PATENT
ATTORNEY DOCKET NO. **45636-5051**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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| In re Application of: **Anne-Francoise BURNOL *et al.*** | |
| Application No.: **09/936,697** | Group Art Unit: **1647** |
| Filed: **September 17, 2001** | Examiner: **Nichols, Christopher J.** |
| For: **GRB14 AND THE INSULIN RECEPTOR AND SCREENING OF NOVEL MEDICINES** | |

Commissioner for Patents
Washington, D.C. 20231

## TRANSMITTAL FORM

1. Transmitted herewith is a response to the Office Action (Restriction Requirement) dated February 20, 2003.

2. Extension of Time: The proceedings herein are for a patent application and the provisions of 37 C.F.R. § 1.136(a) apply. Applicant believes that no extension of time is required. However, if the Applicant has inadvertently overlooked the need for a petition and fee, please consider this a petition therefor. The Commissioner is hereby authorized to charge any additional fees which may be required, including fees due under 37 C.F.R. §§ 1.16 and 1.17, or credit any overpayment to Deposit Account 50-0310.

3. Constructive Petition: **Except** for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-0310. This paragraph is intended to be a **constructive petition for extension of time** in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully submitted
**Morgan, Lewis & Bockius LLP**

Dated: **March 20, 2003**
Morgan, Lewis & Bockius LLP
Customer No. **09629**
1111 Pennsylvania Avenue, N.W.
Washington, D.C. 20004
202-739-3000

Bonnie Weiss McLeod
Registration No. 43,255

ATTORNEY DOCKET NO.:045636-5051-US PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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|---|---|
| In re Application of: | ) |
| Anne-Francoise **BURNOL** *et al.* | ) |
| Application No.: 09/936,697 | ) Examiner: Nichols, C. |
| Filed: September 17, 2001 | ) Group Art Unit: 1647 |
| For: Grb14 AND THE INSULIN RECEPTOR AND SCREENING OF NOVEL MEDICINES | ) |

Commissioner for Patents
Washington, D.C. 20231

Sir:

**REPLY TO OFFICE ACTION (RESTRICTION REQUIREMENT)**

This Reply is responsive to the Office Action dated February 20, 2003, in which the Examiner set forth a restriction requirement under 35 U.S.C. 121 and 372. In response to the restriction requirement, Applicants elect Group 5, claims 8-13, directed to SEQ ID NO: 5 and a method for detecting molecules capable of modulating the tyrosine kinase activity of the insulin receptor, with traverse.

At the outset, Applicants respectfully note that claims 1-7 were cancelled by way of the Preliminary Amendment filed on September 17, 2001. However, the restriction requirement refers to claims 1-20 (even though the face of the Office Action correctly indicates that claims 8-20 are pending). In addition, the restriction requirement refers to "molecules capable of modeling" instead of "molecules capable of modulating" as recited in the pending claims. Clarification of these discrepancies is requested.

With regard to the restriction requirement, Applicants respectfully note that the PIR and PIR-SH2 fragments as claimed relate to a single inventive concept. First, the claimed alternatives share a common structural element in that all fragments contain at least a fragment corresponding to the positions 365-407 of the PIR domain of a protein belonging to the Grb7 family of proteins (see page 6, lines 12-25 of the specification, and table provided below). In addition, the common structural element solves the problem of the invention in that the present inventors have surprisingly found that the claimed PIR fragments alone or associated with the SH2 fragment (PIR-SH2) inhibit the tyrosine kinase activity of the insulin receptor. Thus, for example, the claimed fragments may be used in methods for detecting molecules capable of modulating tyrosine kinase activity of the receptor.

| Protein | PIR | | PIR-SH2 | |
|---|---|---|---|---|
| | SEQ ID NO: | (positions) | SEQ ID NO: | (positions) |
| rGrb14 | 1 | (365-407) | 3 | (365-538) |
| | 2 | (353-436) | 4 | (353-538) |
| hGrb14 | 5 | (365-407) | 7 | (365-538) |
| | 6 | (353-436) | 8 | (353-538) |
| mGrb10 | 9 | (365-407) | 11 | (365-538) |
| | 10 | (353-436) | 12 | (353-538) |
| hGrb10 | 13 | (365-407) | 15 | (365-538) |
| | 14 | (353-436) | 16 | (353-538) |
| rGrb7 | 17 | (365-407) | 19 | (365-538) |
| | 18 | (353-436) | 20 | (353-538) |
| hGrb7 | 21 | (365-407) | 23 | (365-538) |
| | 22 | (353-436) | 24 | (353-538) |
| mGrb7 | 25 | (365-407) | 27 | (365-538) |
| | 26 | (353-436) | 28 | (353-538) |

Given that all the specific sequences shown in the above table and encompassed by claims 9 and 11 share a common structural element that solves the common problem of the invention, Applicants respectfully submit that it would be entirely reasonable to examine all the

claimed sequences in the present application. After all, no unity of invention issue was raised during examination of the PCT application, and the original claims contained both generic claims and claims reciting the specific sequences, SEQ ID Nos. 1-28.

Alternatively, Applicants respectfully request rejoinder of the Groups relating to the PIR fragments as specified above (Groups 1, 2, 5, 6, 9, 10, 13, 14, 17, 18, 21, 22, 25 and 26). At the very least, Group 6 could certainly be examined with Group 5 since the fragments of SEQ ID Nos 5 and 6 are overlapping and are from the same protein (hGrb14). Reconsideration of the restriction requirement is respectfully requested. In any case, claim 8 is a generic claim, and Applicants respectfully request that it be examined in its entirety.

Except for issue fees payable under 37 CFR §1.18, the commissioner is hereby authorized by this paper to charge any additional fees during the pendency of this application including fees due under 37 CFR §1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-0310. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 CFR §1.136(a)(3).

If the Examiner has any questions relating to this Reply or to the application in general, he is respectfully requested to contact the undersigned by telephone so that allowance of the present application may be expedited.

Respectfully submitted,

**MORGAN, LEWIS & BOCKIUS LLP**

Bonnie Weiss McLeod

Dated: March 20, 2003

Bonnie Weiss McLeod
Reg. No. 43,255

**CUSTOMER NO. 009629**
**MORGAN, LEWIS & BOCKIUS LLP**
1111 Pennsylvania Avenue, N.W.
Washington, D.C. 20004
(202) 739-3000 phone
(202) 739-3001 fax